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Research Article

Surgical Treatment Breast Cancer Preservative: Indications, Modalities

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Abstract

Introduction: Mastectomy has been a treatment for early stage of the breast cancer for a very long time with all the consequences that have both physical and mental consequences. Several trials have since validated the efficacy of the treatment of early-stage breast cancers demonstrating an equivalence in terms of overall survival between mastectomy-auxiliary dissection without radiotherapy and conservative treatment with radiotherapy.

Objective: The objective is to report the results obtained and analyze them on an epidemiological, clinical, Para clinical, anatomy-pathological and therapeutic level with the aim of establishing the profile of this cancer in the female population, which may benefits from conservative treatment.

Materials and Methods: We present in this work the experience of our team in conservative breast surgery. Longitudinal retrospective study, over a period of 04 years. We included all the patients having benefited from treatment for a malignant breast tumor within gynecology-obstetrics department as well as the medical oncology and radiotherapy department of HMIMV (Military Hospital) at Rabat.

Results: During this period of 04 years from January 2017 to December 2020, 345 women reached breast cancer, resented in the service of the GOB. Among them 200 women, benefiting from a conservative treatment is a time of 57.9%.

The initial indications for conservative treatment were limited to tumors of less than three centimeters, uni-focal, non-inflammatory.

The use of preoperative treatment (chemotherapy, radiotherapy, hormonal therapy) makes it possible to extend the indications for conservative treatment to larger tumors, and our approach consists in making enlarged surgical excesses while preserving the breast (oncoplastic surgery, sentinel node technique).

Conclusion: Surgery for breast cancer strives to reduce iatrogenic sequelae. This is how new therapeutic approaches are developed, oncoplastic surgery, sentinel lymph node technique and steriotaxic surgery.

Keywords: *Conservative Treatment; Oncoplasty; Sentinel Node; Breast Cancer*

Introduction

Breast cancer is a public health problem worldwide. It is the leading cause of death from cancer in women [1].

Systematic screening and enormous therapeutic progress have enabled early, even subclinical, diagnosis and a better prognosis.

Adjuvant and neoadjuvant treatments have enabled surgery to consolidate its role as a curative treatment in breast cancer [2].

Today, a large proportion of patients with breast cancer can benefit from conservative treatment.

This treatment consists of excision of the tumor with or without breast oncoplasty, and is only possible with adjuvant breast radiotherapy. The indications for conservative treatment were limited and only concerned tumors at their early stage.

Currently, the association with neoadjuvant treatments has made it possible to extend these indications to larger tumours. This conservative treatment also involves lymph node surgery. Sentinel lymph node indications have been developed for several years and constitute a standard for the majority of learned societies in order to avoid the complications of classic dissection. We conducted a retrospective study in the obstetrics gynecology department of the HMIMV in Rabat over a period of 4 years from January 2017 to December 2020 with a follow-up of at least 02 years. We collected 200 cases of breast cancer treated conservatively. The aim of our study was to highlight the change in surgical strategy in recent years, moving from radical treatment to conservative treatment.

Through the analysis of the results of our series and a review of the literature, we will take stock of the therapeutic de-escalation experienced by breast surgery.

Materials and Methods

Type and framework of the study

We carried out a retrospective study concerning patients admitted for breast cancer and having benefited from care at the level of the gynecology-obstetrics department as well as the medical oncology and radiotherapy department of the HMIMV in Rabat, between 2017 and 2020 inclusive, totaling a sample of 200 patients.

Goal of the study

The objective of our study is to report the results obtained and to analyze them on the epidemiological, clinical, paraclinical, anatomopathological and therapeutic levels in order to establish the profile of this cancer in the female population who can benefit from a conservative treatment and to specify the different operating techniques performed in the service.

Sampling

Inclusion criteria

Were included in the study, all patients with breast cancer confirmed by histology during the study period and who received conservative treatment. All histological types were taken into account.

Exclusion criteria:

Patients with the following criteria were excluded from our study:

- Male gender;
- Patients without breast cancer who have undergone lumpectomy;
- Patients with breast cancer who have undergone radical treatment;
- Unusable clinical records;
- Patients lost to follow-up.

During this period, 345 cases of female breast cancer were operated on in our department, of which 200 (57.97%) received conservative treatment and 145 (42.02%) radical Patey-type treatment.

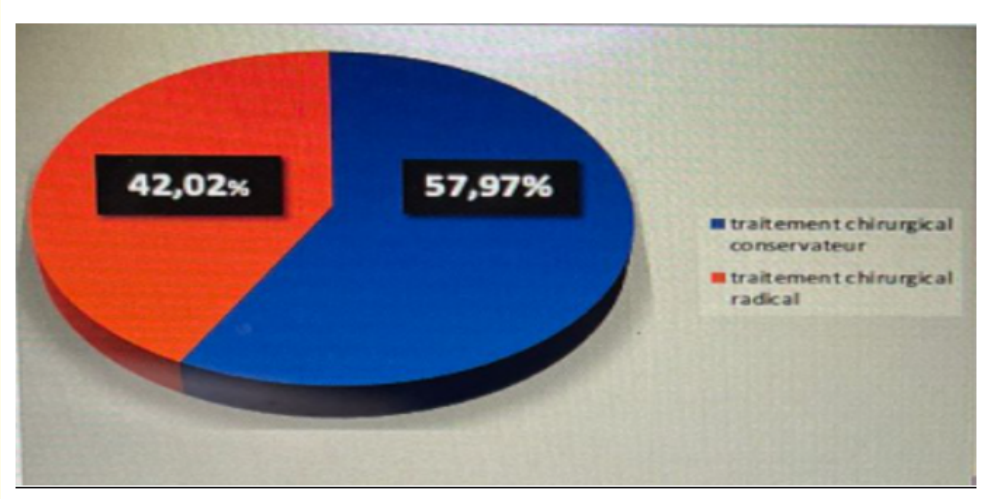

Figure 1: *Number of cases of breast cancer treated in the gynecology-obstetrics department of the HMIMV in RABAT during the period from January 2017 to December 2020.*

Collection of data

We brought out all the files and the anatomopathology reports of all the patients hospitalized for breast cancer during the study period which numbered 345 cases.

In a second step, we sorted the files to retain only those meeting our inclusion criteria, then the data was collected on an individual farm sheet.

Computer analysis of our data was done by Jamovi software [solid version 1.6.23]. Depending on the type of variable, the results are presented in (mean +/- standard deviation), (median - interquartile range) and (number - percentage).

Respect for the anonymity of patients as well as the confidentiality of medical and personal information were conscientiously observed during the collection and processing of data.

Results

Epidemiological study

Frequency

During a period of 04 years, from January 2017 to December 2020, 345 women with breast cancer were identified in the Obstetrics Gynecology Department of the Mohammed V Military Hospital (HMIMV) in RABAT. Among them, 200 benefited from conservative surgical treatment, i.e. a rate of 57.97%.

Age

The average age of our patients is 52 years with a standard deviation of 11.1 (52 +/- 11.1), and extremes of 27 and 85 years.

Family history of breast cancer

In our series, 19.5% (39 out of 200) of patients had one or more cases of breast cancer in their family.

Personal history and risk factors

Age of menarche

The average age of onset of menarche in our series is 12 years with a standard deviation of 7.04 (12 ± 7.04) and extremes ranging from 10 to 20 years.

Parity [number of children]

The average number of full-term pregnancies in our series is 3 with a standard deviation of 1.91 (3 ± 1.91) and extremes ranging from 0 to 10 full-term pregnancies.

Type of parity	Effective [n]	Percentage (%)
Nulliparous	12	6
Pauciparous (1 to 2 children)	76	38
Multiparous (3 to 4 children)	97	48,5
Grand multiparous (≥ 5 children)	15	7,5
Total	200	100

Table 1: *Distribution of patients according to parity.*

Menopause

In our series, we note 107 postmenopausal patients, i.e. 53.3%, and 93 patients still in genital activity, i.e. 46.7%.

The average age of menopause was 54 years with a standard deviation of 2.5 (54 ± 2.5).

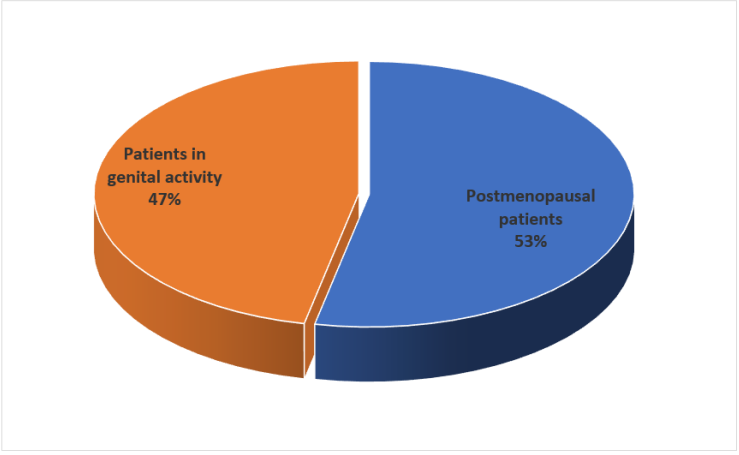

Figure 2: *Distribution of the population according to genital activity.*

Breast feeding

There are 30 nulliparous patients in our population, while the remaining 170 having had at least one child, the average breastfeeding period is 12 months with a standard deviation of 7.93 (12 ± 7.93).

Among these 170 patients only 25% did not breastfeed.

Clinical study

Circumstances of discovery

Overall, the most frequent reason for consultation is represented by the self-examination of a breast lump since it is found in 66% of cases followed by the appearance of mastodynia thus constituting a percentage of 19.5% of the population studied.

It should be noted that 2 patients presented with minimal retraction of the nipple as a reason for consultation (retro-areolar tumours), following which they underwent a pamectomy with breast remodeling without making a new nipple-areolar plate.

Revealing symptomatology	Effective [n]	Percentage (%)
Autopalpation	132	66
Mastodynies	39	19,5
Nipple retraction	2	1,5
Flow	1	0,5
Inflammatory signs	4	2
ADP axillary	5	2,5
Screening	15	7,5
Lucky find	1	0,5
Total	200	100

Table 2: *Telltale signs of breast cancer in our series.*

Diagnostic delay

This is the time elapsed between the first clinical sign and the date of the first consultation. It testifies to the evolution of the neoplastic process over time. This delay is on average 4 months with a standard deviation of 1.91 (4 ± 1.91).

Semiology of nodules

Topography

Breast examination revealed a nodule in 97% of cases.

Our study showed that:

- The left breast is affected in 106 patients, i.e. 53%.
- The right breast in 80 patients, i.e. 40%.
- Bilateral involvement for 10 patients.
- No detectable nodules in 04 patients.

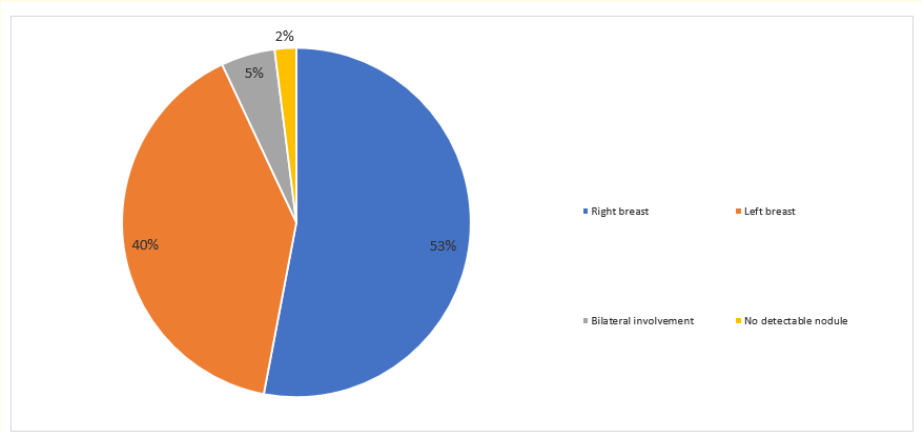

Figure 3: *Distribution of the population according to the topography of the nodule.*

The location of the nodule was specified in 194 patients, a rate of 97%. The nodule sits in the upper outer quadrant (QSE) in 43% of cases followed by the upper inner quadrant (QSI) for a rate of 13% in our population.

Tumor size

The median tumor size is 2.5 cm [2.5 (2 - 3)], with extremes of 0.3 to 7 cm.

10% of patients have a tumor size greater than 4 cm, while sizes between 2 and 4 cm represent 57%, sizes less than or equal to 2 cm represent 33% of cases.

Examination of lymph node areas

Examination of lymph node areas concluded to the absence of lymphadenopathy in 74% of our patients. 26% of our patients presented on examination with axillary adenopathy, no supraclavicular adenopathy was identified.

Paraclinical assessment

Radiology

Mammography-breast ultrasound

All patients underwent a mammogram supplemented if necessary by a breast ultrasound.

The different mammographic aspects were classified according to the ACR classification.

We noted a predominance of tumors classified ACR5 with a rate of 46% and ACR4 with a rate of 38%.

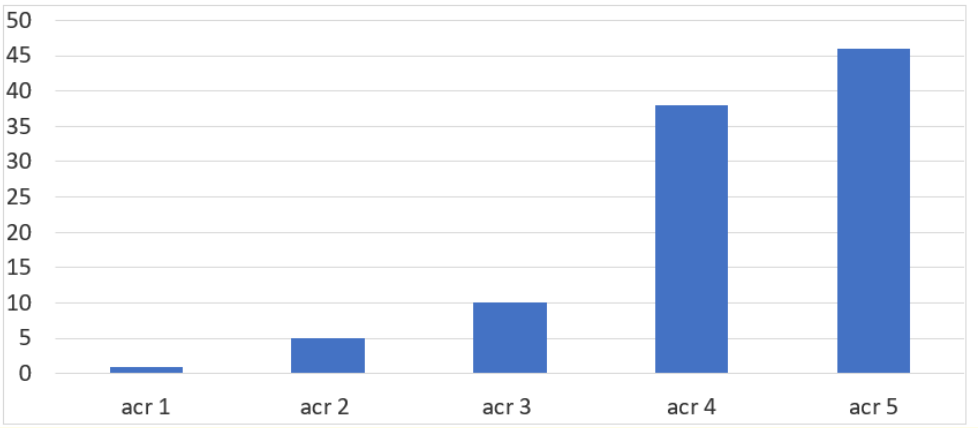

Figure 4: *Distribution of patients according to the ACR radiological classification.*

Histology

Means of diagnosis

Histological confirmation was made by micro-biopsy (semi-automatic biopsy gun) in 92% of our patients and by lumpectomy specimen examination in 8% of cases, the latter patients were initially treated in other formations.

None of our patients benefited from a stereotaxic biopsy, although it is available at the hospital.

	Effective (n)	Percentage (%)
Micro-biopsy	184	92
Lumpectomy piece	16	8
Total	200	100

Table 3: *Means of diagnosis for histological confirmation.*

Results

Histological type

Histological type was determined in all patients. Infiltrating ductal carcinoma (ICC) currently called non-specific type invasive carcinoma (NOS) is the most predominant with a rate of 92%, the other histological types (lobular invasive, mucinous, tubulo-papillary, ADK and others) are found at lower rates.

Histo-prognostic grade

The histo-prognostic grade of Scarff-Bloom and Richardson (SBR) was specified in all patients. The SBR II grade is predominant, thus representing more than 75% of the population studied.

CA 15-3 dosing

The dosage of the CA 15-3 marker was carried out in all our patients, thus returning to normal in all the patients.

Breast MRI (Magnetic resonance imaging)

Breast MRI was performed in front of radio-clinical discrepancy in 15 patients. She objectified an image that could evoke mastitis or neoplasia constituting an ACR5 lesion with spiculated contours and type III enhancement.

Extension report

Chest x-ray

As part of the extension assessment, the chest X-ray was requested in 45 patients, i.e. 22% of the cases in our series. No anomaly was objectified.

Abdominal ultrasound

45 patients benefited from an abdominal ultrasound, i.e. 22.5% of cases. No hepatic metastases or ultrasound abnormalities were detected.

CT TAP (Tomodensitometry thoraco-abdomino-pelvic)

CT was performed in 152 patients, i.e. 76% of the cases in our series. 142 of these CT scans came back normal while 12 showed benign-looking pleuropulmonary micronodules.

PET scanner

Was solicited from 03 patients who already had a history of gynecological or other neoplasia and thus consulted for breast cancer.

The results of the PET scan came back normal.

Bone scan

Performed systematically in all patients, returned without abnormalities except for 07 patients objectifying bone hyperfixation related to a probable secondary localization.

Complementary radiological explorations (standard radiography, scanner, MRI) were not in favor of a bone metastatic localization.

Classification

At the end of the clinical and paraclinical examination and the staging assessment, the TNM clinical classification of the AJCC 2017 (American Joint Committee on Cancer) was established.

TNM classification

Tumor size T

A predominance of T1 and T2 forms is observed with rates of 30% and 64% respectively.

Adenopathy N

The clinical study of lymph node involvement has shown that forms (N0) are the most frequent with a rate of 74% followed by forms (N1) with a rate of 26%.

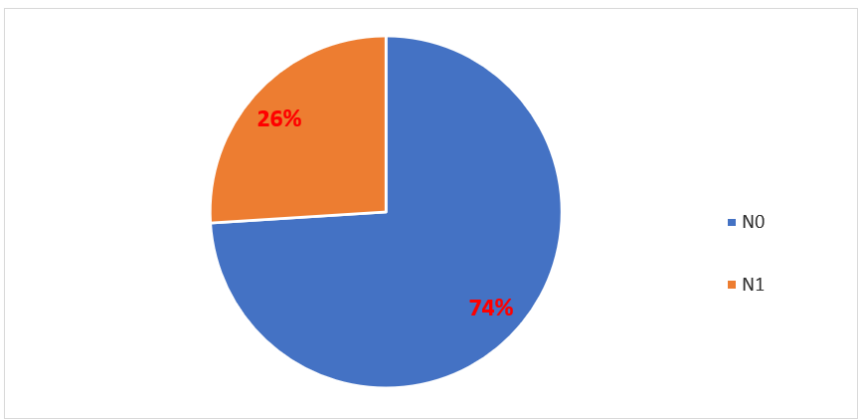

Figure 5: *Distribution of patients according to "N" of the TNM classification.*

Metastasis M

No case of metastasis was objectified in all the patients.

Molecular classification

Molecular classification was established in all patients based on data on hormone receptors, HER2 status and Ki 67%.

It is concluded that the subtype (Luminal A) is the most frequent with a rate of 63.5%, followed by the subtype (Luminal B) representing a rate of 24.5%.

For the HER LIKE, it represents a rate of 9%, as for the triple negative, it represents only 1% of our population.

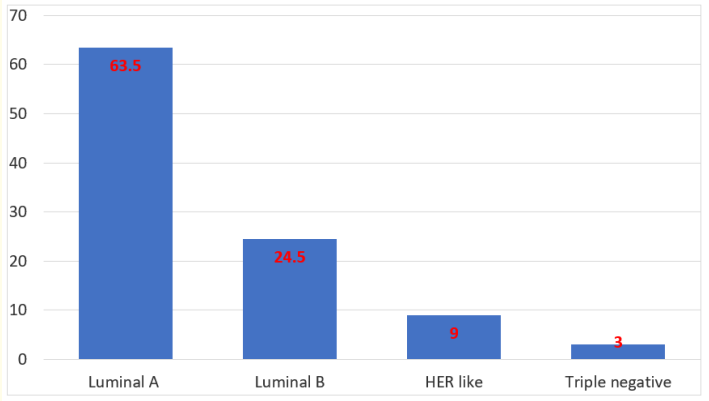

Figure 6: *Distribution of patients according to molecular classification.*

Therapeutic management

Surgical treatment

Tumor treatment

90% of patients benefited from a lumpectomy.

Of which only 1.5% benefited from a simple lumpectomy while 98.5% benefited from a lumpectomy with oncoplasty.

Among the patients benefiting from a simple lumpectomy, we can distinguish:

- 1% benefited from harpoon tracking followed by quadrantectomy (non-palpable tumours);
- 0.5% had a pyramidectomy (tumor with nipple discharge).

In all the patients we placed clips to locate the tumor bed and direct the additional radiotherapy.

For patients who underwent conservative treatment with oncoplasty, the type of oncoplasty depended on the location of the lesion:

- QSE tumor (86 cases): 70 cases benefited from an external plasty, 10 cases benefited from the "Round block" technique, 6 cases benefited from the "omega" technique
- QSI tumor (26 cases): 20 cases benefited from the "omega" technique, 6 cases benefited from internal plastic surgery
- QIE tumor (24 cases): 18 cases benefited from the inverted "T" technique with superior pedicle, 4 cases benefited from the "J" technique with superior pedicle and 2 cases benefited from the "L" technique » with upper pedicle.
- QII tumor (18 cases): 10 cases benefited from the inverted "T" technique with superior pedicle and 8 cases benefited from the submammary fold technique
- JQS tumor (19 cases): 10 cases benefited from the "T" technique with lower pedicle, 9 cases benefited from the "omega" technique
- JQE tumor (16 cases): Underwent external plastic surgery
- Tumor of the axillary extension (3 cases): Underwent a radial incision opposite the tumor with breast remodeling
- Retro-areolar tumor (2 cases): Underwent a pamectomy with breast remodeling without making a new nipple-areolar plate.

Axillary surgery

It consisted of lymph node removal in all patients who underwent breast surgery.

2 techniques were performed, namely the classic axillary lymph node dissection involving the first two stages of Berg and the sentinel lymph node technique.

In our series of cases, 62% of the patients were able to benefit from the sentinel lymph node technique by radioisotope method, while 38% had an axillary dissection.

Complications of surgical treatment

- Intraoperative complications: None.
- Immediate post-operative complications:
- Lymphedema: 20 cases including 10 drained and 10 with spontaneous resolution.
- Surgical site infection: 2 cases treated with antibiotic therapy and local care.

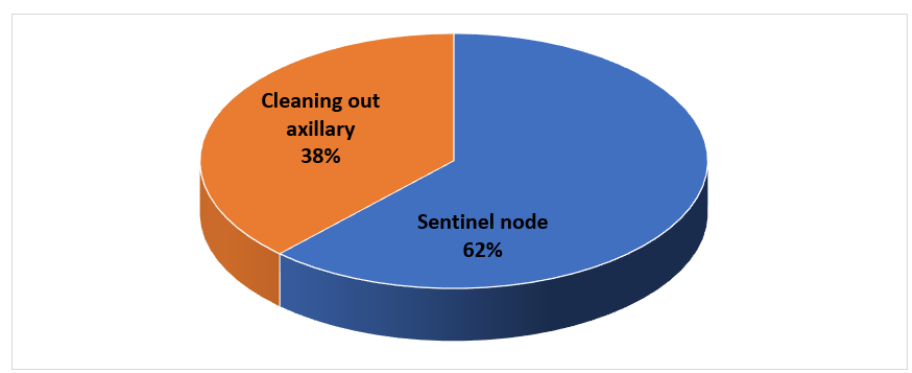

Figure 7: *Distribution of patients according to the technique used in axillary surgery.*

- Hematoma of the lumpectomy site: 10 cases having benefited from monitoring with good spontaneous evolution.
- Late post-operative complications: 15 cases with parietal tingling and ipsilateral limbs.

Anatomopathology of surgical specimens

Definitive histological type

The most common histological type is infiltrating ductal carcinoma (ICC) representing a rate of 92%. The other histological types are also found at very low rates.

Excision limits

Excision limits were assessed on all surgical specimens. 182 were healthy while 18 presented tumor excision limits, which required a simple surgical revision of the tumor bed without impact on the aesthetic result.

Ki67 proliferation index

The Ki-67 proliferation index was sought by immunohistochemical technique in all patients.

Tumor emboli

The search for tumor emboli was determined in all patients, returning positive in 26 patients, a rate of 13%.

Intra-canal component

The intra-canal quota is present in 36 patients, i.e. a rate of 18%.

Lymph node involvement

- The average value of lymph nodes removed during axillary dissection is 10 lymph nodes with a standard deviation of 3 (10 +/- 3).
- The average value of lymph nodes removed during the sentinel lymph node is 2 with a standard deviation of 1 (2 +/- 1).
- Capsular effraction was found in 53 patients for the 2 techniques combined and therefore a lymph node invasion of 26.5%.

Lymph node involvement	Percentage (%)
Curage -	74
Curage +	26
< 3 N+	87
≥ 3 N+	13

Table 4: *Distribution of patients according to lymph node involvement.*

Hormone receptors

The search for hormone receptors was done in all our patients. It was negative in 6 patients. Of the remaining 194 patients, 176 had dual positive tumors (thus expressing estrogen and progesterone receptors) while 18 patients had only positive estrogen receptors.

pTNM classification

After study of the surgical specimen, the pTNM classification was established for all the patients.

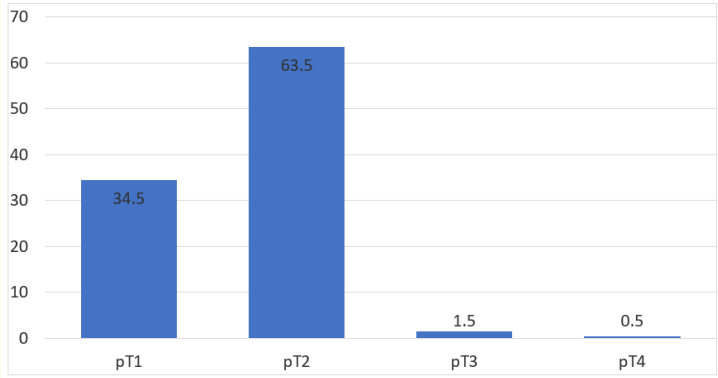

Figure 8: *Results of the pT of the pTNM classification.*

No metastasis was detected.

Neoadjuvant therapy

63 patients (32%) received neoadjuvant treatment after identification of the tumor (preoperative chemotherapy with or without targeted therapy) and according to the immunological profile of the tumor.

137 patients (68%) underwent primary surgery.

Adjuvant therapy

Radiotherapy

All our patients benefited from radiotherapy on the breast and a complement on the tumor bed systematically oriented by the clip placed intraoperatively.

No serious post-radiation complication was noted apart from 16 cases of simple radiodermatitis, resolved by symptomatic treatment and with no impact on the aesthetic result of the surgery.

Chemotherapy

164 patients, or 82% of cases, received chemotherapy. The mean time between chemotherapy and surgery was 2.55 months with a standard deviation of 1.54 months (2.55 +/- 1.54) and extremes between 1 and 9 months.

The patients in our series benefited from chemotherapy protocols based on docetaxel, anthracyclines, cyclophosphamide or a combination of molecules.

Targeted therapies

18 HER-positive patients were put on trastuzumab, administered as an intravenous infusion once every 3 weeks, i.e. 9% of cases.

Hormone therapy

176 patients, i.e. 88% of cases, benefited from hormone therapy via Tamoxifen and Anti-aromatase, used exclusively or successively, as a "switch".

Evolution

Monitoring and surveillance

The patients in our series were followed up until December 2020 with one consultation every 3 months for the first 3 years, then every 6 months for the next 2 years and then every year.

Recurrences

Loco-regional recurrences

In our series, there was 1 case of local relapse, treated by mastectomy.

Metastatic recurrences

We identified 4 cases of metastatic relapses, treated with chemotherapy.

Discussion

Epidemiological characteristics

Frequency of breast cancer

According to the latest global figures, one in five men and one in six women will develop cancer during their lifetime, and one in eight men and one in eleven women will die from the disease [3].

In Morocco, more than 48,000 new cases of cancer were diagnosed in 2020. 65% of diagnosed cancers affect women compared to 35% for men [4].

Breast cancer is the most common form of cancer in women in Morocco (35.8%), followed by cancer of the cervix (11.2%), thyroid cancer (8.6%), colorectal cancer (5.9%) and ovarian cancer (4.3%) [3].

In 2019, 10,414 new cases of breast cancer were diagnosed in the Kingdom.

In 2030, this figure will increase to 16,018, according to forecasts by the Grand Casablanca Cancer Registry (RCGC). In 2004, this figure was 5,465 [5].

Women between the ages of 45 and 49 are the most affected by this type of cancer.

According to GLOBOCAN 2020, 11,747 women in Morocco are affected by breast cancer with 3,695 deaths [3].

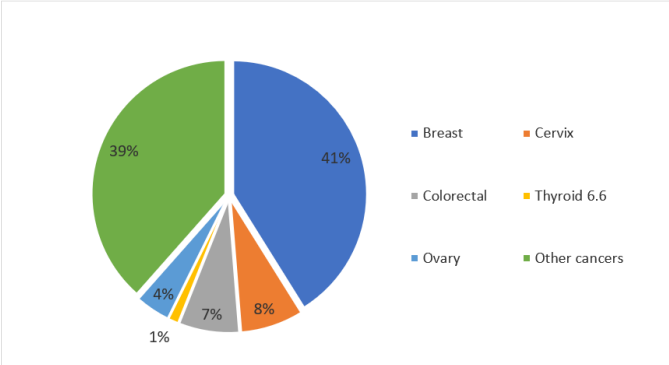

Figure 9: *Number of new cases of cancer in 2020 within the female population in MOROCCO, all ages combined [3].*

Risk factors

Age [6]

Age is the most important risk factor: the older a woman gets, the more likely she is to develop breast cancer.

The average age of onset of breast cancer in women in the literature is around fifty, which is consistent with our series where the average was 52 years.

Socio-geographical factors [7]

Data from global registers show that there is a very wide variation in incidence between countries and disparities are also observed according to ethnic origin. Many epidemiological studies conducted in migrant populations support a role for environmental exposure, including diet, to explain the variation in breast cancer rates across countries.

In terms of breast cancer incidence rates, the women most affected are those living in high-income territories (North America, Europe). In question, risk factors related to the lifestyle present in developed countries such as smoking, alcohol, sedentary lifestyle and overweight.

Endogenous hormonal factors

Menarche and menopause [8]

Numerous studies show that the occurrence of the first period before the age of 12 increases the risk of breast cancer. The biological basis of this association corresponds to the early and prolonged exposure to the hormonal impregnation that exists during the period of

activity of the ovaries. This exposure is considerable when menstrual cycles are regular.

In our study, early menarche was found in 20% of patients, i.e. between 10 and 12 years old.

Women who have their menopause after age 50 have an increased risk of breast cancer, compared to those whose menstruation stops early. The risk of breast cancer increases by about 3% for each additional year from the presumed age of menopause.

So to speak, the first periods and the menopause respectively mark the beginning and the end of ovarian activity, and thus the production of the various hormones involved in reproduction. Therefore, the longer the time between these two events, the longer the window of exposure to sex hormones and therefore the higher the risk of breast cancer.

Parity [9]

Parity is a well-known factor: The more the number of children increases, the more the risk decreases, with an estimate of -8% per child.

The average number of children in our study is 3, thus representing a rate of 48.5% with a rate of nulliparity which does not exceed 6%.

Breastfeeding [10]

The literature is unanimous as to the protective role of breastfeeding against breast cancer. One hypothesis explaining this protective effect is the decrease in the number of menstrual cycles due to the delay in ovulation caused by breastfeeding.

A meta-analysis carried out on 27 studies shows a reduction in risk that is all the more significant as the cumulative duration of breastfeeding increases.

In our study, we count 40% of patients who did not breastfeed.

Exogenous hormonal factors

Family history of breast cancer [12]

The identification of the BRCA1 and BRCA2 genes, respectively located on chromosomes 17 (q21) and 13 (q12-13), was a major advance in 1994 and 1995 in the understanding of familial forms of breast cancer. Estimates of the cumulative risk, i.e. cancer penetrance, for women with a BRCA1/2 mutation are in the order of 40% to 85% of developing breast cancer at age 70 for BRCA1 and BRCA2, compared to 8% in the general population.

In our series, 19.5% of cases presented a family history of breast cancer.

Clinical features

Time to diagnosis [13]

The time to diagnosis varies greatly and depends on several parameters, in particular the quality of the health system in place.

Indeed, this delay remains late in developing countries given the difficulty of access to care and the precariousness of certain hospital structures. Developed countries are not spared either and show just as much a delay in diagnosis which would be due to poor awareness of young people against breast cancer.

Thus, in our series, the average diagnostic delay is 04 months. Most of our patients were diagnosed before 5 months, representing a rate of 53.75%.

Circumstances of discovery [14]

In our series, 66% of cases of breast cancer were discovered following self-examination.

This result perfectly matches the data of the literature since the majority of breast cancers are discovered by self-examination. Cancer can also be discovered following mastodynia, the discovery of axillary lymphadenopathy or metastases, nipple discharge or retraction, inflammatory signs next to or following an assessment for another pathology.

Clinical examination [15]

The physical examination of the patient should detail the following:

1. The size of the tumor measured in millimeters.
2. The topography that can be indicated on a diagram.
3. The mobility of the tumor relative to the superficial and deep plane.
4. Examination of the skin covering.
5. Examination of the nipple and areola.
6. Asymmetries in size or shape between the 2 breasts.
7. Examination of lymph node areas.
8. Examination of the contralateral breast which must be carried out systematically.

Several authors have carried out an exhaustive review of the literature and have noticed that the left breast is more frequently affected by cancer than the right breast.

This is the case of our series since 53% of patients had a tumor in their left breast.

When it comes to quadrants, the upper outer quadrant (QSE) is most affected by breast cancer.

This is the case of our series since nearly 43% of cases present tumors located at the level of the QSE.

Paraclinical assessment

Mammography

In general, two views are taken per breast, one cranio-caudal, the other in profile, which can be replaced by a mid-lateral view.

Mammography is systematically offered to women aged 45 to 74 as part of organized screening.

Diagnostic mammography is prescribed to a woman, regardless of her age, if an anomaly has been detected (nodule of hard consistency, regular or irregular contours, painless on palpation and seeming as if "fixed" in the breast) on palpation by the doctor.

In our series, we noted a predominance of tumors classified ACR5 with a rate of 46% and ACR4 with a rate of 38%.

Breast ultrasound

Ultrasound complements mammography in the event of a visible mass and/or dense breasts, making its analysis very difficult because it can mask small lesions having the same density as the surrounding breast tissue.

The combined analysis of mammographic and ultrasound images makes it possible to orient the diagnosis towards a benign anomaly or towards a malignant tumor.

In addition, an axillary ultrasound exploration is done systematically and at the same time as the diagnostic breast ultrasound.

Magnetic resonance imaging (MRI)

Breast MRI is a routine technique for exploring breast and axillary areas for varied but well-defined indications.

This technique offers the best performance in terms of detection, particularly in non-calcified images, compared to the clinical examination-mammography-ultrasound triplet, but at the same time generates a large number of false positives responsible for unnecessary biopsies or monitoring.

MRI therefore has many indications but remains an expensive and little available examination, which tends to limit its indications.

In our study, 15 breast MRIs were performed in the face of a radio-clinical discrepancy, objectifying lesions classified as ACR 5.

Pathology

Histological diagnostic means [16]

The BIRADS classification makes it possible to standardize a course of action, and in particular to set the indication for a sample.

Ultrasound-guided cytopuncture

Since the advent of microbiopsies, the place of fine needle aspiration in the diagnostic arsenal in breast pathology has clearly decreased. In current practice, the radiologist will use fine needle aspiration biopsy to characterize an atypical cyst, steatonecrosis, axillary adenomegaly or in the presence of several suspicious breast lesions (with direct cytological examination to best guide the microbiopsy samples).

Microbiopsy sub-ultrasound

Under ultrasound guidance, the approach is always done along the long axis of the probe in order to have a constant and real-time visualization of the progression of the needle.

Sub-ultrasound microbiopsy is a powerful technique with a false negative rate of only 2 to 5%.

The limits of microbiopsies are rare: in the event of fibrous breasts, limiting the progression of the needle, 16G needles must be used, in the event of a small lesion (less than 5 mm) or subtle images, placement in place of a clip must be imperative (which will facilitate operative identification in the event of surgery.

In our study, 184 patients underwent microbiopsy.

Macrobiopsy under ultrasound

Sub-ultrasound macrobiopsy can be used in three situations:

- As an alternative to surgery
- Larger sampling
- Biopsy of complex lesions.

It is always necessary to place a clip at the end of the procedure in order to find the biopsy area if additional surgical excision is desirable.

In our series, no patient benefited from macrobiopsy.

Sub-stereotaxic breast samples

Indications for substereotaxic macrobiopsy are:

- Foci of calcifications;
- Mammographic opacity, architectural distortion or density asymmetry without ultrasound translation.

Stereotaxy makes it possible to calculate the spatial coordinates of an object from its two-dimensional visualization under two opposite and symmetrical angles.

In our series, no patient benefited from biopsy under stereotaxy although it is available at the hospital.

Surgical biopsy

A biopsy can be done in the operating room by a surgeon under local or general anesthesia. This makes it possible to remove all the suspicious lesion palpated or identified on mammography or ultrasound. It can be excisional or incisional depending on the nature and the clinical and radiological characteristics of the lesion.

None of our patients benefited from surgical biopsy.

Histological types [17]

The normal breast has a milk tree and connective tissue. Cancer most often develops from the milk tree. Breast carcinomas are by far the most common.

In our series, invasive ductal carcinoma (ICC) is the most predominant with a rate of 92%.

The other histological types (infiltrating lobular, mucinous, tubulopapillary, ADK and others) are found at lower rates.

Extension report [18]

At the locoregional level:

- We specify the seat of the tumor and its dimensions in cm;
- We are looking for a possible cutaneous extension;
- We specify if there are clinical adenopathies, their size and their location; We note possible signs of local inflammation at the level of the tumor, or regional at the level of the breast whose prognostic value is great when they exist;
- On mammograms, we look for a possible second focus in the ipsilateral breast and in the other breast.

From a distance

We look for distant metastases for infiltrating cancers of 1 cm or more.

At a minimum, for all cases, in order to have a comparative element, chest x-rays and an abdominopelvic ultrasound are performed.

For tumors larger than 3 cm, SBR II or III tumors, tumors with clinical lymphadenopathy or on pathological examination (dissection or cytology) and progressive tumors, a thoraco-abdomino-pelvic CT scan, a bone scintigraphy is performed and, if possible, a PET scanner.

In our series, all the patients benefited from an extension assessment comprising either chest X-ray + abdomino-pelvic ultrasound (152 patients) + bone scintigraphy or CT TAP (48 patients) + bone scintigraphy.

Biology

We specify the SBR if this has not been done. We also specify the level of hormonal receptors for estrogen and progesterone. We note the level of CA15-3, which can be high in the event of a large or already metastasized tumor.

In our series, tumors classified as T2 were predominant with a rate of 64% followed by T1 tumors with a rate of 30%.

The N0 and N1 forms are the most frequent according to several authors, which agrees with our series, thus representing a respective rate of 88% and 22%.

Conclusion

Breast cancer is the leading cause of death from cancer in women worldwide. Screening and enormous therapeutic progress have enabled early diagnosis and a better prognosis. However, late diagnosis and unoptimized management can easily cloud the prognosis.

Nevertheless, advances in the medical field and the advent of new therapies such as hormone therapy and targeted therapies have succeeded in prolonging survival in patients. Breast surgery, on the other hand, has been modernized, becoming less aggressive while retaining its curative potential.

Thus, it will be necessary to insist on the surgical component and the interest of conservative treatment in the management in order to optimize the therapeutic proposals and guarantee, in addition to the eradication of the disease, a satisfactory post-cancer quality of life.

Finally, it should be kept in mind that the announcement of a diagnosis of breast cancer in a woman is a violent trauma that is difficult to accept; and therefore care taking into consideration the aesthetic damage remains essential in order to allow a better quality of life.

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